and supporting and guiding means whereby cooling of the terminal leads is enhanced by air flow through those ventilation gaps.

33. An alternating current machine according to claim 32, wherein each stator winding terminal lead is an integral continuation of a conductor which forms a respective stator winding.

34. An alternating current machine according to claim 32, wherein the stator winding terminal leads that comprise the ends of a respective stator winding are led together for connection to respective terminals of a terminal block from a location which is in a common notional plane that is normal to the axis of rotation of the rotor within the stator.

35. An alternating current machine, according to claim 32, wherein each of the supporting and guiding means of said array comprises an axially orientated member which is formed of electrically insulating plastics material and which is operable to guide said terminal leads side by side along the respective paths between the adjacent members of the array.

36. An alternating current machine according to claim 35, wherein each axially orientated member comprises an elongate back portion with integral prongs which project laterally therefrom so that it has the form of a comb, the prongs projecting outwardly with respect to the axis of the stator and serving as spacers which space juxtaposed ones of the terminal leads apart and react electromagnetic forces which act to urge towards them either of the terminal leads they separate.

37. An alternating current machine according to claim 36, wherein juxtaposed prongs have nearer sides and ends which form intervening spaces and mouths therebetween and the prongs are shaped so that the

nearer sides of juxtaposed prongs converge towards the ends of the prongs remote from the back portion, the mouths formed between those ends of juxtaposed pairs of the prongs being sized such that a terminal lead can be fitted into the intervening spaces between each juxtaposed pair of prongs with a snap action.

38. An alternating current machine according to claim 36, further comprising means fitted to the ends of the prongs of each of said axially orientated members for bracing the leads into the space between adjacent prongs.

39. An alternating current machine according to claim 38, wherein said means which are operable to brace the leads into each axially orientated member are part of an elongate flexible rod member which, in addition to functioning to brace the leads into the respective axially orientated member, also comprises a strap portion which is passed under the back portion of the respective axially orientated member, remote from the prongs, and under bundles of conductors that comprise portions of the stator windings that have been turned around at said end of the stator, whereby the respective axially orientated member is strapped to the stator windings by the strap portion.

40. An alternating current machine according to claim 32, wherein the rotor is coupled with a fan for conjoint rotation, the fan being within a casing and being operable to cause air flow through the stator from said one end, that air flow being drawn into the stator through the ventilation gaps formed between juxtaposed terminal leads and adjacent supporting and guiding means at said one end of the stator, the casing cooperating with the fan to provide a conduit for discharge air flow from the fan.

41. An alternating current machine according to claim 40, wherein the conduit is in the form of a volute whereby the area of said volute increases progressively in the downstream direction.

42. An alternating current machine according to claim 40, wherein there are two sets of conduits diametrically opposed one with respect to the other and oriented to discharge in opposite directions.

43. An alternating current machine according to claim 41, wherein the fan is a radial flow fan which has a hub and blades which project from the hub at an angle which is oblique to a notional direction which is radial with respect to the hub whereby those blades trail the notional radial direction.

44. An alternating current machine according to claim 41, wherein the fan has an axis of rotation and each blade has a tip which is angled with respect to the axis of rotation of the fan whereby the tip of each blade diverges from a wall of the casing that surrounds it.

45. An alternating current machine comprising a rotor journalled for rotation within a stator, the stator comprising stator windings which project from one end of the stator for connection to a terminal arrangement, and a radial flow fan coupled to said rotor for conjoint rotation, the fan being within a housing and rotatable with said rotor to cause air flow through the stator from said one end, the housing cooperating with the fan to provide a conduit for discharge of air flow from the fan, the conduit being in the form of a volute whereby its area increases progressively in the downstream direction, said fan

having a hub and blades which project from the hub at an angle which is oblique to a notional direction which is radial with respect to the hub whereby those blades trail the notional radial direction.

46. An alternating current machine according to claim 45, wherein the fan has an axis of rotation and each blade has a tip which is angled with respect to the axis of rotation of the fan whereby it diverges from a wall of the casing that surrounds it in a direction which is parallel to the axis of rotation and which extends away from said one end of the stator.

Respectfully submitted,

By _____
Gary M. Gron
Attorney of Record

Columbus, Indiana
August 2, 2001
Our File: 8-02-9513

l:/patent/9513/1st amendment.dot